

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claims 1, 5, 9 and 13 have been amended to recite that the switching valve is switched from the first position to the second position according to a change in the position of the driving state switching valve when “all of” the plurality of electromagnetic control valve devices stop working. Basis for this is found in the sentence bridging pages 13 and 14 and in paragraph [0041] in the specification.

Obvious errors in Claims 11, 12 and 14-16 have been corrected.

New Claims 17-32 correspond to Claims 1-16, respectively, except that they recite the feature described in paragraph [0036] whereby the switching valve is maintained in the first position to establish the first predetermined speed upon failure of at least one of the electromagnetic control valve devices when the switching valve is in the first position, whereas upon the driving state switching valve subsequently changing position, or upon a change in an operating state of the hydraulic pump, during the failure of the at least one of the electromagnetic control valve devices, the switching valve switches to a second position to establish a second predetermined speed. Basis for this is found in paragraphs [0036] and [0043].

Claims 3, 6, 11 and 14 have been withdrawn from consideration as being drawn to a non-elected species. New Claims 19, 22, 27 and 30 are based upon Claims 3, 6, 11 and 14, and so will also presumably be withdrawn. Nonetheless, since the withdrawn claims are dependent upon claims which remain generic, it is respectfully requested that these claims be included in any patent issuing from the present application.

According to a feature of the invention set forth in Claims 1-4 and 9-12, in an automatic transmission including a plurality of hydraulic friction engaging devices controlled by a plurality of electromagnetic control valve devices, a switching valve is switched from a

first position which establishes a first predetermined speed to a second position which establishes a second predetermined speed, when *all of* the plurality of electromagnetic control valve devices stop working, according to a change in a position of a driving state switching valve. For example, referring to the non-limiting embodiments disclosed in the specification, a switching valve 96 (Figure 4) switches the flow of hydraulic fluid to engage and release clutches in order to establish first through sixth speeds in accordance with the table of Figure 2. If the electromagnetic control valve devices 84-92 stop working, for example due to a failure of a connector while the switching valve 96 is in a first position corresponding to the fifth speed, the normally closed valves 84, 88 and 90 will be closed and the normally open valves 86 and 92 will be open (paragraph [0033]) so that the fifth speed (clutch CL2 and brake B3 engaged; Fig. 2) may be maintained. However, the fifth speed may provide an insufficient driving force for a fail-safe operation (see paragraph [0006]). Accordingly, in accordance with the invention set forth in Claims 1-4 and 9-12, in such a case the switching valve 96 is switched from the first position to a second position which establishes a second predetermined speed (the third speed) according to a change in a position of the manual (driving state switching) valve 82. For example, in this case movement of the manual valve 82 causes the switching valve 96 to be switched from the position shown at the left hand side in Figure 4 to the position shown at the right hand side in Figure 4, to disengage the clutch CL2 and engage the clutch CL1, thereby establishing the third speed which has a larger gear ratio than the fifth speed and ensuring the driving power necessary for running at low speeds or for takeoff (paragraph [0036]).

In accordance with Claims 5-8 and 13-16, the switching valve is switched from the first position to the second position according to a change in an operating state of the hydraulic pump when all of the electromagnetic control valve devices stop working.

Claims 1, 2, 5, 7, 9, 10, 13 and 15 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. patent 5,738,602 (Morita et al.). Applicants respectfully submit that the amended claims clearly define over this reference.

Morita et al. is concerned with the inability of the transmission to shift into any speed other than the fifth speed upon the failure of a specific solenoid SA which is associated with the clutch K1. The clutch K1 must be engaged for any speed other than the fifth speed (Figure 2 of Morita et al.). Accordingly, the failure of the solenoid SA normally prevents the transmission from shifting out of the fifth speed. Morita et al. therefore provides that in such a case the clutch K1 is instead supplied with hydraulic pressure through a circuit which does not require passage through the solenoid SA, thus making it possible to establish the first gear despite the fact that the solenoid SA has failed (column 3, lines 17-24).

Thus, Morita et al. discloses the ability to establish a speed other than the fifth speed in response to the failure of a *single* specific solenoid SA. On the other hand, it provides no teaching for establishing a predetermined speed upon failure of *all* of the solenoid valves SA-SE. Instead, since remaining solenoid valves SB-SE are respectively associated with the clutches K2, K3 and the brakes B1, B2, and two of the clutches and brakes must be engaged to establish the first through fifth speeds (Fig. 2), failure of *all* of the normally closed (col. 6, lines 45-46) solenoid valves would release all of the clutches and brakes, thereby prohibiting engagement of any of the first through fifth speeds. Morita et al. thus provides no teaching for a switching valve which is switched to establish a second predetermined speed “when *all* of the plurality of electromagnetic control valve devices stop working” as is now recited in the claims. It is therefore respectfully submitted that the amended claims define over this reference.

Claims 1, 5, 9 and 13 were also rejected under 35 U.S.C. § 102 as being anticipated by U.S. patent publication 2001/0014638 (Suzuki). Suzuki describes a fail-safe functioning

of the transmission during failure of the hydraulic control apparatus (paragraph [0113]-[0118]). Specifically, in view of the normally open or normally closed states of the solenoid valves shown in Figure 2 of the reference, in the case of such failure the transmission will *immediately* switch from the current speed to another speed. For example, during first speed failure, immediate up-shifting occurs to the third speed in the case of failure of the hydraulic control apparatus (paragraph [0113]).

On the other hand, the claims recite that the switching valve is switched from the first position to the second position in the case that all of the plurality of electromagnetic control valve devices stop working, “according to a change in a position of the driving state switching valve” or “according to a change in an operating state of the hydraulic pump.” There is no description in Suzuki that the switching from one speed to another according to a failure of the hydraulic control apparatus is dependent upon a change in a position of a driving state switching valve or according to a change in an operating state of the hydraulic pump. Instead, the description of Suzuki is that such switching occurs immediately upon failure of the hydraulic control apparatus, due to the normally open or normally closed states of the solenoid valves. The claims therefore also define over this reference.

New Claims 17-32 recite that upon the failure of at least one of the electromagnetic control valve devices, the switching valve is maintained in the first position, and switches to a second position upon the driving state switching valve subsequently changing position, or upon a change in an operating state of the hydraulic pump, during failure of at least one of the electromagnetic control valve devices. There is no description in Morita et al. that a switching valve is maintained in a position upon failure of an electromagnetic control valve. Rather, failure of the solenoid valve SA in Morita et al. while the transmission is in the first speed condition causes the transmission to immediately shift to a fifth speed (column 13,

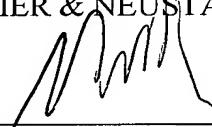
lines 4-15). Similarly, shifting in Suzuki et al. is immediate. These claims are therefore also believed to define over the prior art.

The drawings have been revised as required in the Office Action.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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IN THE DRAWINGS

Please replace the sheets of drawings containing Figs. 4, 5 and 6 with the three attached sheets of replacement drawings in which: (1) the phrase “ELECTROMAGNETIC VALVE” adjacent the numeral 96 has been deleted in Fig. 4, (2) the numeral “38” in each of Figs. 4-6 has been changed to “88,” (3) the part 92 in Fig. 6 has been relabeled “FIFTH ELECTROMAGNETIC VALVE”, and (4) the part 90 in Fig. 6 has been relabeled “FOURTH ELECTROMAGNETIC VALVE.”

Attachment: (3) Replacement Sheets